Application No. 10/519,219 Docket No.: 03108/0202223-US0 Amendment dated March 10, 2008

Reply to Office Action of November 9, 2007

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims presented in the application.

(Currently amended) A compound of the formula (I).

$$R_1$$
 R_2
 R_1
 R_2
 R_1
 R_1
 R_1
 R_2
 R_3
 R_4
 R_1
 R_1
 R_2
 R_3
 R_4
 R_5

(I)

and its tautomeric forms, its stereoisomers, and its pharmaceutically acceptable salts and solvates,

wherein R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ may be the same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C₁-C₁₂₂alkyl, (C₂-C₁₂alkenyl, (C₂-C₁₂alkenyl, (C₃-C₇)cycloalkenyl, bicycloalkyl, bicycloalkenyl, (C₁-C₁₂₂alkoxy, cyclo(C₃-C₇)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heteroarylakyl, heteroaralkyl, heteroaryloxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, heterocyclylalkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxyarbonylamino,

with "heteroatoms", as above defined:

aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylaminiono, alkylaminocarbonylamino, alkylaminocarbonylamino, of the adjacent groups like R₁ and R₂ or R₂ and R₃ or R₃ and R₄ or R₅ and R₆ or R₆ and R₇ or R₇ and R₈ together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R₉ and R₁₀ or R₁₁ and R₁₂ together represent double bond attached to "Oxygen" or "Sulfur"; or R₉ and R₁₀ or R₁₁ and R₁₂ together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which

may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Sclenium" and also includes combination of one or more double bonds

 R_{13} and R_{14} may be the same or different and each independently represents hydrogen, substituted or unsubstituted groups such as linear or branched (C_1 - C_{12})alkyl, (C_2 - C_{12})alkynl, (C_2 - C_{12})alkynly, (C_2 - C_{12})alkynoyl (C_3 - C_7)cycloalkyl, (C_3 - C_7)cycloalkyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or R_{13} and R_{14} along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above: and

"n" is an integer ranging from 1 to 8, preferably 1 to 4, and may represent either a linear or branched earbon chain.

- (Previously presented) A compound according to Claim [[-]]1, which is selected from the group
 consisting of:
 - 6-(2-N,N-Dimethylaminoethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 4-Bromo-6-(2-N.N-dimethylaminoethyl)benzo[d]isothiazolo[3,2-a]indol-S.S-dioxide:
 - 4-Chloro-6-(2-N,N-dimethylaminoethyl)-benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 6-(2-N,N-Dimethylaminoethyl)-4-fluorobenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

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6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide hydrochloride salt:

> 6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide maleate salt:

6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide D,L-malic acid salt:

6-(2-N.N-Dimethylaminoethyl)-4-methylbenzo[d]isothiazolo[3,2-a]indol-S.S-dioxide oxalate salt:

6-(2-N,N-Dimethylaminoethyl)-4-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide citrate salt;

6-(2-N.N-Dimethylaminoethyl)-4-methoxybenzo[d]isothiazolo[3,2-a]indol-S.S-dioxide:

6-(2-N,N-Dimethylaminoethyl)-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

4-Bromo-6-(2-N.N-dimethylaminoethyl)-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-

dioxide;

4-Chloro-6-(2-N.N-dimethylaminoethyl)-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S.S-

dioxide:

6-(2-N,N-Dimethylaminoethyl)-4-fluoro-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

6-(2-N.N-Dimethylaminoethyl)-4-methyl-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S.S-

dioxide:

6-(2-N.N-Dimethylaminoethyl)-4.8-dimethoxybenzo[d]isothiazolo[3,2-a]indol-S.S-dioxide:

6-(2-N,N-Dimethylaminoethyl)-2-ethylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

dioxide:

dioxide:

dioxide;

2,4-Dichloro-6-(2-N,N-dimethylaminoethyl)-benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 2,3-Dichloro-6-(2-N,N-dimethylaminoethyl)-benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 5-Chloro-6-(2-N,N-dimethylaminoethyl)-2-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 2.4.5-Trichloro-6-(2-N.N-dimethylaminoethyl)-benzo[d]isothiazolo[3.2-a]indol-S.S-dioxide: 6-(2-N,N-Dimethylaminoethyl)-2.4-difluorobenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 6-(2-N,N-dimethylaminoethyl)-4-fluoro-8-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 2.4-Difluoro-6-(2-N,N-dimethylaminoethyl)-8-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-6-(2-N.N-Dimethylaminoethyl)-2-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide: 6-(2-N,N-Dimethylaminoethyl)-2,8-dimethoxybenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 6-(2-N,N-Dimethylaminoethyl)-8-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 6-(3-N,N-Dimethylamino-1-hydroxyprop-1-yl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide; 4-Bromo-6-(3-N,N-Dimethylamino-1-hydroxyprop-1-yl)benzo[d]isothiazolo[3,2-a]indol-S,S-

2-Chloro-6-(2-N,N-dimethylaminoethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

 $\label{eq:continuity} 6-(3-N,N-Dimethylamino-1-hydroxyprop-1-yl)-8-methylbenzo[d] isothiazolo[3,2-a] indol-S, S-dioxide;$

6-(3-N,N-Dimethylamino-1-hydroxyprop-1-yl)-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-

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- $\label{lem:condition} 4-Bromo-6-(3-N,N-dimethylamino-1-hydroxyprop-1-yl)-8-methoxybenzo[d] isothiazolo[3,2-a] indol-S,S-dioxide;$
 - 6-[2-(4-Methylpiperazin-1-yl)ethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 6-[2-Morpholin-4-ylethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 6-(2-Pyrrolidin-1-ylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 6-(2-Piperidin-1-yl)ethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 4-Bromo-6-[2-morpholin-4-ylethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 4-Bromo-6-(2-pyrrolidin-1-ylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 4-Bromo-6-[2-(4-methylpiperazin-1-yl)ethyl]benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
 - 6-(3-(Piperidin-1-yl)-1-hydroxyprop-1-yl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- $\label{eq:continuous} 6\text{-}(3\text{-}(Piperidin-1-yl)-1-hydroxyprop-1-yl)-8-methoxybenzo[d] isothiazolo[3,2-a] indol-S, S-dioxide:$
 - 4-Bromo-6-(3-(piperidin-1-yl)-1-hydroxyprop-1-yl)benzo[d]isothiazolo[3,2-a]indol-S.S-dioxide:
- $\label{lem:condition} 4-Bromo-6-(3-(piperidin-1-yl)-1-hydroxyprop-1-yl)-8-methoxybenzo[d] is othiazolo[3,2-a] indol-S.S-dioxide:$
 - 6-(3-(Pyrrolidin-1-yl)-1-hydroxyprop-1-yl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- 6-(3-(Pyrrolidin-1-yl)-1-hydroxyprop-1-yl)-8-methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-
- dioxide:
- 6-(2-(N,N-Diethylamino)-2-methylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;
- 6-(2-(N.N-Dimethylamino-1-hydroxy-1-yl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide:

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4-Bromo-6-(2-(N,N-Dimethylamino-1-hydroxy-1-yl)benzo[d]isothiazolo[3,2-a]indol-S,S-

dioxide;

6-(2-(N,N-Dimethylaminoethyl)-2,4-difluoro-8-Methoxybenzo[d]isothiazolo[3,2-a]indol-S,S-

dioxide;

6-(2-(N,N-Dimethylamino-2-methylethyl)benzo[d]isothiazolo[3,2-a]indol-S,S-dioxide:

4-Chloro-6-(2-(N,N-Dimethylaminoethyl)-8-methylbenzo[d]isothiazolo[3,2-a]indol-S,S-dioxide;

and

8-(2-(N,N-Dimethylaminoethyl)benzo[d]isothiazolo[3,2-a]benzo(g)indol-S,S-dioxide,

or its stereoisomers, its N-oxides, and its pharmaceutically acceptable salts and solvates.

3. (Currently amended) A pharmaceutical composition comprising either of a pharmaceutically acceptable carrier, diluent/s, excipient/s or solvates solvents along with a therapeutically effective amount of a compound according to Claim 1, its tautomeric forms, its stereoisomers, its geometric forms, its N-oxides, and its pharmaceutically acceptable salts, or solvates.

- 4. (Previously presented) A pharmaceutical composition according to Claim 3, in the form of a tablet, capsule, powder, lozenges, suppositories, syrup, solution, suspension or injectable, administered in, as a single dose or multiple dose units.
- (Withdrawn) Use of compound of formula (I), as defined in Claim 1 or a pharmaceutical composition as defined in Claim 3 for preparing medicaments.
- (Withdrawn) Use of compound of formula (I), as defined in Claim 1 or a pharmaceutical composition as defined in Claim 3 for the treatment where a modulation of 5-HT activity is desired.

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7. (Withdrawn) Use of a compound as claimed in Claim 1 for the manufacture of a medicament for the

treatment and/or prevention of clinical conditions for which a selective action on 5-HT receptors is indicated.

8. (Withdrawn) Use of a compound as claimed in Claim 1 for the treatment and/or prevention of

clinical conditions such as anxiety, depression, convulsive disorders, obsessive-compulsive disorders, migraine headache, cognitive memory disorders, ADHD (Attention Deficient Disorder/ Hyperactivity

Syndrome), personality disorders, psychosis, paraphrenia, psychotic depression, mania, schizophrenia,

schizophreniform disorders, withdrawal from drug abuse, panic attacks, sleep disorders and also disorders

associated with spinal trauma and /or head injury.

9. (Withdrawn) Use of a compound as claimed in Claim 1 for the treatment of mild cognitive

impairment and other neurodegenerative disorders like Alzheimer's disease, Parkinsonism and Huntington's

chorea.

10. (Withdrawn) Use of a compound as claimed in Claim 1 for the treatment of certain GI

(Gastrointestinal) disorders such as IBS (Irritable bowel syndrome) or chemotherapy induced emesis.

11. (Withdrawn) Use of a compound as claimed in Claim 1 to reduce morbidity and mortality associated

with the excess weight.

12. (Withdrawn) Use of a radiolabelled compound as claimed in Claim 1, as a diagnostic tool for

modulating 5-HT receptor function.

13. (Withdrawn) Use of a compound as claimed in Claim 1 in combination with a 5-HT re-uptake

inhibitor, and / or a pharmaceutically acceptable salt thereof.

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14. (Canceled)

15. (Withdrawn) A method for the treatment and/or prophylaxis of clinical conditions such as anxiety,

convulsive disorders, obsessive-compulsive disorders, migraine headache, cognitive memory disorders,

ADHD (Attention Deficient Disorder/ Hyperactivity Syndrome), personality disorders, psychosis,

paraphrenia, psychotic depression, mania, schizophrenia, schizophreniform disorders, withdrawal from drug

abuse, panic attacks, sleep disorders and also disorders associated with spinal trauma and /or head injury which comprises administering to a patient in need thereof, an effective amount of a compound of formula (I)

as claimed in Claim 1.

16. (Withdrawn) A method for the treatment and/or prophylaxis of mild cognitive impairment and other

neurodegenerative disorders like Alzheimer's disease, Parkinsonism and Huntington's chorea which

comprises administering to a patient in need thereof, an effective amount of a compound of general formula

(I) as claimed in Claim 1.

17. (Withdrawn) A method for the treatment of certain GI (Gastrointestinal) disorders such as IBS

(Irritable bowel syndrome) or chemotherapy induced emesis using a compound of general formula (I) as

claimed in Claim 1.

18. (Withdrawn) A method to reduce morbidity and mortality associated with the excess weight using a

compound of formula (I) as claimed in Claim 1.

19. (Withdrawn) A process for the preparation of a compound of formula (I),

wherein R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ may be same or different and each independently

represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C₁-C₁)alkyl, (C₂-C₁)alkyl, (C₂-C₁)alkyl,

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C₁₂)alkynyl, (C₃-C₇)cycloalkyl, (C₃-C₇)cycloalkenyl, bicycloalkyl, bicycloalkenyl, (C₁-C₁₂)alkoxy, cyclo(C₃-C2) alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, arvloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino; or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R7 or R7 and R8 together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R9 and R10 or R11 and R₁₂ together represent double bond attached to "Oxygen" or "Sulfur"; or R₀ and R₁₀ or R₁₁ and R₁₂ together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and also includes combination of one or more double bonds with "heteroatoms", as above defined;

 R_{13} and R_{14} may be same or different and each independently represents hydrogen, substituted or unsubstituted groups such as linear or branched (C_{17} - C_{12})alkyl, (C_{27} - C_{12})alkynl, (C_{27} - C_{12})alkynl, (C_{27} - C_{12})alkynly, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or R_{13} and R_{14} along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above; and

"n" is an integer ranging from I to 8, preferably I to 4, and may represent either a linear or branched carbon chain; which comprises of cyclizing, a compound of formula (II) given below,

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , R_{12} , R_{13} , R_{14} and "n", wherein all the symbols are as defined above, using a Pd(0) or Pd (II) derivative as a catalyst.

20. (Withdrawn) A process for the preparation of a compound of formula (I),

wherein R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ may be same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C₁-C₁₂)alkyl, (C₂-C₁₂)alkenyl, (C₂-

C₁₂)alkynyl, (C₃-C₇)cycloalkyl, (C₃-C₇)cycloalkenyl, bicycloalkyl, bicycloalkenyl, (C₁-C₁₂)alkoxy, cyclo(C₃-C₇)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heterocyclyl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino; or the adjacent groups like R₁ and R₂ or R₂ and R₃ or R₃ and R₄ or R₅ and R₆ or R₆ and R₇ or R₇ and R₈ together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen". "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R9 and R10 or R11 and R12 together represent double bond attached to "Oxygen" or "Sulfur"; or R9 and R10 or R11 and R12 together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and also includes combination of one or more double bonds with "heteroatoms", as above defined;

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 R_{13} and R_{14} may be same or different and each independently represents hydrogen, substituted or unsubstituted groups such as linear or branched (C_1-C_{12}) alkyl, (C_2-C_{12}) alkyn, (C_2-C_{12}) alkyn, (C_2-C_{12}) alkyn, (C_3-C_7) cycloalkyl, (C_3-C_7) cycloalkyl, (C_3-C_7) cycloalkyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or R_{13} and R_{14} along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above; and

"n" is an integer ranging from 1 to 8, preferably 1 to 4, and may represent either a linear or branched carbon chain; which comprises of reacting a compound (III) given below,

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$$\begin{array}{c|c}
R_1 & R_9 & H \\
R_{10} & R_{11} \\
R_{12} & R_8 \\
R_3 & R_4 & R_5
\end{array}$$
(III)

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 , R_{10} , R_{11} , R_{12} and "n" are as defined above, with a suitable alkylating agent such as R_{13} X or R_{14} X or $XR_{13}R_{14}$ X in successive steps or in one step, wherein X is good leaving group such as halogen and hydroxyl.

21. (Withdrawn) A process for the preparation of a compound of formula (I),

wherein R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ may be same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C₁-C₁₂)alkyl, (C₂-C₁₂)alkonyl, (C₂-C₁₂)alkynyl, (C₃-C₇)cycloalkyl, (C₃-C₇)cycloalkyl, bicycloalkenyl, bicycloalkenyl, (C₁-C₁₂)alkoxy, cyclo(C₃-C₇)alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heterocyclyl, heterocyclylalkyl, heteroaralkyl,

heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, aminocarbonylamino, alkylaminocarbonylamino, dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino; or the adjacent groups like R₁ and R₂ or R₂ and R₃ or R₃ and R₄ or R₅ and R₆ or R₆ and R₇ or R₇ and R₈ together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; or R9 and R10 or R11 and R12 together represent double bond attached to "Oxygen" or "Sulfur"; or R9 and R10 or R11 and R12 together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and also includes combination of one or more double bonds with "heteroatoms", as above defined;

 R_{13} and R_{14} may be same or different and each independently represents hydrogen, substituted or unsubstituted groups such as linear or branched (C_1-C_{12}) alkyl, (C_2-C_{12}) alkynl, (C_2-C_{12}) alkynl, (C_2-C_{12}) alkynloyl (C_3-C_7) cycloalkyl, (C_3-C_7) cycloalkyl, bicycloalkyl, bicycloalkenyl, aryl, aralkyl, heteroaryl, or heterocyclylalkyl; or R_{13} and R_{14} along with the nitrogen atom, may form a 3, 4, 5, 6 or 7-membered heterocyclic ring, wherein the ring may be further substituted, and it may have either one, two or three double bonds or "additional heteroatoms", as defined above; and

"n" is an integer ranging from 1 to 8, preferably 1 to 4, and may represent either a linear or branched carbon chain; which comprises of reacting a compound of (IV) given below,

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(IV)

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wherein R1, R2, R3, R4, R5, R6, R7 and R8 are as defined above, with formaldehyde and a compound of formula (V) given below,

NHR13R14

(V)

wherein R₁₃ and R₁₄ are as defined above.

- 22. (Withdrawn) A process for the preparation of compound of formula (I), which comprises of either chemically or catalytically reducing compounds containing =C(O) group/s in the side chain, to the corresponding -C(OH,H) or -C(H,H) compound.
- 23. (Withdrawn) A process according to Claim 19 to Claim 22, comprising of carrying out one or more of the following optional steps: i) removing any protecting group; ii) resolving the racemic mixture into pure enantiomers by the known methods and iii) preparing a pharmaceutically acceptable salt of a compound of formula (I) and/or iv preparing a pharmaceutically acceptable prodrug thereof.
- 24. (Canceled)
- 25. (Canceled)
- (Currently amended) Novel intermediates of formula (III) are represented as given below, 26.

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$$\begin{array}{c|c}
R_1 & R_9 & R_{11} \\
R_2 & R_7 \\
R_3 & R_4 & R_7
\end{array}$$
(III)

wherein R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀, R₁₁ and R₁₂ may be the same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C₁-C₁₂)alkyl, (C₂-C₁₂)alkenyl, (C₂-C₁₂)alkynyl, (C₃-C₇)cycloalkyl, (C₃-C₇)cycloalkenyl, bicycloalkyl, bicycloalkenyl, (C₁-C₁₂)alkoxy, cyclo(C₃-C1)alkoxy, arvl. arvloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaryloxy, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, aryloxycarbonyl, aralkoxycarbonyl, heterocyclylalkoxycarbonyl, heteroaryloxycarbonyl, hydroxyalkyl, aminoalkyl, monoalkylaminoalkyl, dialkylaminoalkyl, alkoxyalkyl, aryloxyalkyl, aralkoxyalkyl, alkylthio, thioalkyl, alkoxycarbonylamino, arvloxycarbonylamino. aralkyloxycarbonylamino. aminocarbonylamino. alkylaminocarbonylamino. dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino; or the adjacent groups like R1 and R2 or R2 and R3 or R3 and R4 or R5 and R6 or R6 and R7 or R7 and R8 together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms, or R₂ and R₁₀ or R₁₁ and R12 together represent double bond attached to "Oxygen" or "Sulfur"; or R2 and R10 or R11 and R12 together with the carbon atoms to which they are attached may form a 3, 4, 5, or 6 membered ring, which may further optionally contain one or more double bonds, and/or one or more heteroatoms such as the group "Oxvgen", "Nitrogen", "Sulfur" or "Selenium" and also includes combination of one or more double bonds with "heteroatoms", as above defined[[,1];

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"n" is an integer ranging from 1 to 8. It is preferred that n be 1 to 4. The earbon chains which "n" represents may be either linear or branched.

- 27. (Withdrawn) A process provided for the preparation of novel intermediate of the general formula (III) which comprises of cyclizing a suitable compounds of formula (II).
- 28. (Withdrawn) Novel intermediates defined of formula (IV),

$$\begin{array}{c|c} R_1 & O & CH_3 \\ \hline R_2 & R_5 & R_6 \\ \hline \end{array}$$

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 and R_8 are as may be same or different and each independently represent hydrogen, halogen, perhaloalkyl, hydroxy, amino, nitro, cyano, formyl, amidino, guanidino, substituted or unsubstituted groups such as linear or branched (C_1-C_{12}) alkyl, (C_2-C_{12}) alkenyl, (C_2-C_{12}) alkynyl, (C_3-C_7) cycloalkyl, (C_3-C_7) cycloalkyl, bicycloalkyl, bicycloalkenyl, (C_1-C_{12}) alkoxy, cyclo (C_3-C_7) alkoxy, aryl, aryloxy, aralkyl, aralkoxy, heterocyclyl, heteroaryl, heterocyclylalkyl, heteroaralkyl, heteroaralkoxy, heterocyclylalkyloxy, acyl, acyloxy, acylamino, monoalkylamino, dialkylamino, arylamino, diarylamino, aralkylamino, alkoxycarbonyl, heterocyclylalkoxycarbonyl, heterocyclylalkoxycarbonyl, heterocyclylalkoxylakyl, aryloxyalkyl, aralkoxyalkyl, aminoalkyl, alkoxylakyl, aralkoxylakyl, aralkoxylakyl, aralkoxylakyl, alkylthio, thioalkyl, alkoylamino, aryloxycarbonylamino, aralkyloxycarbonylamino, alkylaminocarbonylamino, alkylaminocarbonylamino, alkylaminocarbonylamino, alkylaminocarbonylamino, alkylaminocarbonylamino,

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dialkylaminocarbonylamino, alkylamidino, alkylguanidino, dialkylguanidino, hydrazino, hydroxylamino; or the adjacent groups like R₁ and R₂ or R₂ and R₃ or R₃ and R₄ or R₃ and R₄ or R₅ and R₅ or R₇ and R₈ together with carbon atoms to which they are attached may form a 5, 6, or 7 membered ring, which may further optionally contain one or more double bonds and/or one or more heteroatoms such as the group "Oxygen", "Nitrogen", "Sulfur" or "Selenium" and combinations of double bond and heteroatoms; and R₉ and R₁₀ here are represented as double bond attached to "Oxygen".

29. (Withdrawn) A process provided for the preparation of novel intermediate of the formula (IV) which comprises of cyclizing compounds of formula (VIII)

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 and R_8 are as defined above; using a Pd(0) or Pd (II) derivative as a catalyst.

- 30. (New) The compound of claim 1, wherein n is 1 to 4.
- 31. (New) The novel intermediates of claim 26, wherein n is 1 to 4.